

What is claimed is:

1. A pneumatic tire for passenger cars having a tread and left and right beads, the beads each having a bead core embedded therein with a bead filler disposed on the outer circumferential side of the bead core, at least one carcass ply being arranged to extend between the beads, the carcass ply having reinforcing cords which extend in a width direction of the tire and are aligned at a predetermined interval along a circumferential direction of the tire, and two belt plies being disposed on the outer circumferential side of the carcass ply in the tread,

wherein an average of residual strain of the reinforcing cords of an innermost carcass ply is set to -10% to 5% in each of side regions located between an outer circumferential end of the bead filler and an end of an overlapping portion of the two belt plies.

2. A pneumatic tire for passenger cars according to claim 1, wherein the average of residual strain of the reinforcing cords is set to -10% to 3%.

3. A pneumatic tire for passenger cars according to claim 2, wherein the average of residual strain of the reinforcing cords is set to -10% to 0%.

4. A pneumatic tire for passenger cars having a tread and left and right beads, the beads each having a bead core embedded therein with a bead filler disposed on the outer circumferential side of the bead core, at least one carcass ply being arranged

to extend between the beads, the carcass ply having reinforcing cords which extend in a width direction of the tire and are aligned at a predetermined interval along a circumferential direction of the tire, and two belt plies being disposed on the outer circumferential side of the carcass ply in the tread,

wherein an average of residual strain of the reinforcing cords of an innermost carcass ply is set to -5% to 1% in a overlapping region corresponding to an overlapping portion of the two belt plies.

5. A pneumatic tire for passenger cars according to claim 4, wherein the average of residual strain of the reinforcing cords is set to -5% to -1%.

6. A pneumatic tire for passenger cars according to claim 5, wherein the average of residual strain of the reinforcing cords is set to -5% to -3%.

7. A pneumatic tire for passenger cars according to claim 4, wherein an average of residual strain of the reinforcing cords of the innermost carcass ply is set to -10% to 5% in each of side regions located between an outer circumferential end of the bead filler and an end of an overlapping portion of the two belt plies.

8. A pneumatic tire for passenger cars according to claim 7, wherein the average of residual strain of the reinforcing cords is set to -10% to 3% in each of the side regions.

9. A pneumatic tire for passenger cars according to claim

8, wherein the average of residual strain of the reinforcing cords is set to -10% to 0% in each of the side regions.

10. A method of manufacturing a pneumatic tire for passenger cars, comprising the steps of:

setting a green tire in a shaping mold for pre-shaping green tires, the green tire having a tread and left and right beads, the beads each having a bead core embedded therein with an unvulcanized bead filler disposed on the outer circumferential side of the bead core, at least one unvulcanized carcass ply being arranged to extend between the beads, the carcass ply having reinforcing cords which extend in a width direction of the tire and are aligned at a predetermined interval along a circumferential direction of the tire, and two unvulcanized belt plies being disposed on the outer circumferential side of the unvulcanized carcass ply in the tread, the shaping mold having shaping surfaces which can shape a green tire having a size close to that of the green tire which is being pressed against molding surfaces of a vulcanization mold;

inflating the set green tire so that the set green tire is pressed against the shaping surfaces of the shaping mold to form a shaped green tire; and

setting the shaped green tire in the vulcanization mold;
and

curing the shaped green tire after inflating the shaped green tire so as to press against the molding surfaces of the

vulcanization mold.

11. A method of manufacturing a pneumatic tire for passenger cars according to claim 10, wherein the green tire is set in the shaping mold after preheated.

12. A method of manufacturing a pneumatic tire for passenger cars according to claim 11, wherein the green tire is preheated so that a surface temperature of the green tire is 40°C to 90°C when set in the shaping mold.

13. A method of manufacturing a pneumatic tire for passenger cars according to claim 11, wherein the green tire is cooled down after inflated in the shaping mold.

14. A method of manufacturing a pneumatic tire for passenger cars according to claim 13, wherein the shaped green tire is cooled down so that the surface temperature of the shaped green tire is 30°C or lower when removed from the shaping mold.

15. A method of manufacturing a pneumatic tire for passenger cars according to claim 10, wherein the shaping mold has the shaping surfaces extending from the beads of the set green tire to at least intersections where vertical lines perpendicularly drawn to a tread surface of the tread from ends of a widest belt ply of the unvulcanized belt plies meet the tread surface.

16. A method of manufacturing a pneumatic tire for passenger cars according to claim 15, wherein each of the shaping surfaces extends tire-inward along the tire width direction to

a position which is located at 20% or more of the width of the widest belt ply from the end of the widest belt ply.